

IAP7 Rec'd PCT/PTO 17 JAN 2006

**TRANSMITTAL LETTER**  
**General - Patent Pending)**

Docket No.  
87792.065605

In Re Application of Boneham et al.

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/537,852	June 8, 2005	Unknown	23469	Unknown	N/A

Title: **PEPTIDE OLIGOMERS FOR USE AS HIV VACCINES**

COMMISSIONER FOR PATENTS:

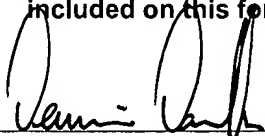
Transmitted herewith is:

Information Disclosure Statement (1 page);  
Information Disclosure Citation (PTO Form 1449) (5 pages);  
Copies of 42 references;  
Certificate of Mailing by First Class Mail for each of the above; and  
Postcard for Acknowledgement.

in the above identified application.

- ☒ No additional fee is required.
- ☐ A check in the amount of \_\_\_\_\_ is attached.
- ☒ The Director is hereby authorized to charge and credit Deposit Account No. **10-0223** as described below.
- ☐ Charge the amount of \_\_\_\_\_
- ☐ Credit any overpayment.
- ☒ Charge any additional fee required.
- ☐ Payment by credit card. Form PTO-2038 is attached.

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

  
\_\_\_\_\_  
Signature

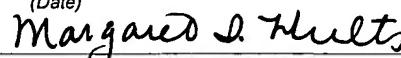
Dated: January 13, 2006

Dennis B. Danella, Esq.  
Reg. No.: 46,653  
JAECKLE FLEISCHMANN & MUGEL, LLP  
190 Linden Oaks  
Rochester, New York 14625-2812  
Telephone: (585) 899-2930  
Facsimile: (585) 899-2931

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on

January 13, 2006

(Date)



Signature of Person Mailing Correspondence

Margaret I. Hults

Typed or Printed Name of Person Mailing Correspondence

CC:

**CERTIFICATE OF MAILING BY FIRST CLASS MAIL (37 CFR 1.8)**Applicant(s): **Bonnam, et al.**

Docket No.

**87792.065605**

Application No.

**10/537,852**

JAN 17 2006

Filing Date

**June 8, 2005**

Examiner

**Unkn wn**

Customer No.

**23469**

Group Art Unit

**Unknown**Invention: **PEPTIDE COMPOUNDS FOR USE AS HIV VACCINES**I hereby certify that this **Information Disclosure Statement (1 page)***(Identify type of correspondence)*

is being deposited with the United States Postal Service as first class mail in an envelope addressed to:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on **January 13, 2006***(Date)***Margaret I. Hults***(Typed or Printed Name of Person Mailing Correspondence)***Margaret I. Hults***(Signature of Person Mailing Correspondence)***Note: Each paper must have its own certificate of mailing.**

**CERTIFICATE OF MAILING BY FIRST CLASS MAIL (37 CFR 1.8)**

Applicant(s): Boneham et al.

Docket No.

87792.065605

Application No.

10/537,852

Filing Date

JAN 17 2006  
June 8, 2005

Examiner

Unkn wn

Customer No.

23469

Group Art Unit

Unknown

Invention: PEPTIDE OLIGOMERS FOR USE AS HIV VACCINES

I hereby certify that this Information Disclosure Citation (PTO Form 1449) (5 pages)

(Identify type of correspondence)

is being deposited with the United States Postal Service as first class mail in an envelope addressed to:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on January 13, 2006

(Date)

Margaret I. Hults

(Typed or Printed Name of Person Mailing Correspondence)

Margaret I. Hults

(Signature of Person Mailing Correspondence)

Note: Each paper must have its own certificate of mailing.

**CERTIFICATE OF MAILING BY FIRST CLASS MAIL (37 CFR 1.8)**Applicant(s): **Boneham, et al.**

Docket No.

**87792.065605**

Application No.

**10/537,852**

Filing Date

**June 8, 2005**

Examiner

**Unkn wn**

Customer No.

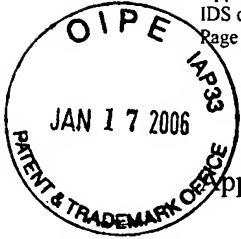
**23469**

Group Art Unit

**Unknown**Invention: **PEPTIDE OLIGOMERS FOR USE AS HIV VACCINES**I hereby certify that this **Copies of 42 references***(Identify type of correspondence)*

is being deposited with the United States Postal Service as first class mail in an envelope addressed to:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on **January 13, 2006***(Date)***Margaret I. Hults***(Typed or Printed Name of Person Mailing Correspondence)**Margaret I Hults**(Signature of Person Mailing Correspondence)***Note: Each paper must have its own certificate of mailing.**



Docket No. 87792.065605

Applicants : Boneham et al.  
Appl. No. : 10/537,852  
Filed : June 8, 2005  
Title : Peptide Oligomers for Use as HIV Vaccines  
TC/A.U. : Not Yet Known  
Examiner : Not Yet Known

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

### INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 CFR §§1.97-1.98, applicants hereby bring to the attention of the United States Patent and Trademark Office ("PTO") the references listed on the attached PTO-1449 form. No fee is deemed necessary in connection with the filing of this Information Disclosure Statement ("IDS"), since this IDS is being filed before the mailing of a first Office Action on the merits.

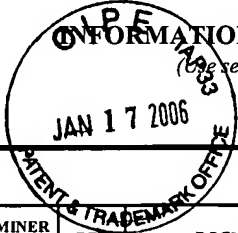
Please direct any questions regarding this application to applicants' undersigned attorney at the number provided.

Respectfully submitted,

Dennis B. Danella  
Reg. No. 46,653  
Direct Tel: 585-899-2957

1/13/06  
Dated

Jaeckle Fleischmann & Mugel, LLP  
190 Linden Oaks  
Rochester, NY 14625-2812  
Tel: 585-899-2930  
Fax: 585-899-2931

				Docket Number (Optional) <b>87792.065605</b>		Application Number <b>10/537,852</b>		
				Applicant(s) <b>Boneham et al</b>				
				Filing Date <b>June 8, 2005</b>		Group Art Unit <b>Unknown</b>		
<b>U.S. PATENT DOCUMENTS</b>								
*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
	1	5,185,147	02-09-1993	Papsidero				
	2	5,750,332	05-12-1998	Robey et al				
<b>U.S. PATENT APPLICATION PUBLICATIONS</b>								
*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
<b>FOREIGN PATENT DOCUMENTS</b>								
	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation YES NO	
	3	WO 94/03487	02-17-1994	WO				
	4	WO 03/022879	03-20-2003	WO				
	5	WO 94/29339	12-22-1994	WO				
	6	EP 0 570 357 B1	06-25-1997	EP				
	7	WO 00/61618	10-19-2000	WO				
<b>OTHER DOCUMENTS</b> (Including Author, Title, Date, Pertinent Pages, Etc.)								
	8	Tripathy et al, "Design and Synthesis of a Self-Assembling Peptide Derived From the Envelope Proteins of HIV Type 1" (1992) J. Immunol. 148(12): 4012-20						
	9	Scala et al, "Selection of HIV-Specific Immunogenic Epitopes by Screening Random Peptide Libraries with HIV-1-Positive Sera", (1999) J. Immunol. 162(10): 6155-61						
EXAMINER				DATE CONSIDERED				
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.								

<b>INFORMATION DISCLOSURE CITATION</b> <i>(Use several sheets if necessary)</i>	ATTY DOCKET NO. <b>87792,065605</b>	APPLICATION NO. <b>10/537.852</b>
	APPLICANT(S) <b>Boneham et al.</b>	
	FILING DATE <b>June 08, 2005</b>	GROUP ART UNIT <b>Unknown</b>

U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

U.S. PATENT APPLICATION PUBLICATIONS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS								
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
	10	WO 01/019958 A3	03-22-2001	WO				

OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>			

EXAMINER	DATE CONSIDERED
----------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>INFORMATION DISCLOSURE CITATION</b> <i>(Use several sheets if necessary)</i>		Docket Number (Optional) <b>87792.065605</b>		Application Number <b>10/537,852</b>	
		Applicant(s) <b>Boneham et al</b>			
		Filing Date <b>June 08, 2005</b>		Group Art Unit <b>Unknown</b>	
*EXAMINER INITIAL	OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>				
11	Barnett et al, "The Ability of an Oligomeric Human Immunodeficiency Virus Type 1 (HIV-1) Envelope Antigen to Elicit Neutralizing Antibodies against Primary HIV-1 Isolates is Improved following Partial Deletion of the Second Hypervariable Region", (2001) J Virol. 75(12): 5526-40				
12	Defoort et al, "Macromolecular assemblage in the design of a synthetic AIDS vaccine", (1992) Proc Natl Acad Sci USA 89: 3879-3883				
13	Zwick et al (2001) "Identification and Characterization of a Peptide That Specifically Binds the Human, Broadly Neutralizing Anti-Human Immunodeficiency Virus Type 1 Antibody b12" J. Virol. 75: 6692-6699				
14	Cruz et al, "A Comparative Study of Different Presentation Strategies for an HIV Peptide Immunogen", (2004) Bioconjugate Chem. 15: 112-120 (NOT PRIOR ART)				
15	Angelaccio & Bonaccorsi di Patti, "Site-Directed Mutagenesis by the Megaprimer PCR Method: Variations on a Theme for Simultaneous Introduction of Multiple Mutations", (2002) Analytical Biochemistry 306: 346-9				
16	Beddows et al, "Comparison of the Antibody Repertoire Generated in Healthy Volunteers following Immunization with a Monomeric Recombinant gp120 Construct Derived from a CCR5/CXCR4-Using Human Immunodeficiency Virus Type 1 Isolate with Sera from Naturally Infected Individuals", (1999) J. Virol. 73. 1740-1745				
17	Better et al, "Escherichia coli Secretion of an Active Chimeric Antibody Fragment", (1988) Science 240, 1041-1043				
18	Bird et al, "Single-Chain Antigen-Binding Proteins", (1988) Science 242, 423-426				
19	Brons-Poulsen et al, "An improved PCR-based method for site directed mutagenesis using megaprimers", (1998) Molecular & Cellular Probes 12, 345-348				
20	Buchacher et al (1994) "Generation of Human Monoclonal Antibodies against HIV-1 Proteins; Electrofusion and Epstein-Barr Transformation for Peripheral Blood Lymphocyte Immortalization" AIDS Research and Human Retroviruses 10: 359-369				
21	Burton et al, "A large array of human monoclonal antibodies to type 1 human immunodeficiency virus from combinatorial libraries of asymptomatic seropositive individuals", (1991) Proc. Natl. Acad. Sci. USA 88, 10134-10137				
22	Burton et al, "Efficient Neutralization of Primary Isolates of HIV-1 by a Recombinant Human Monoclonal Antibody", (1994) Science 266, 1024-1027				
EXAMINER		DATE CONSIDERED			
<p>*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>					



<b>INFORMATION DISCLOSURE CITATION</b> <i>(Use several sheets if necessary)</i>		Docket Number (Optional) <b>87792.065605</b>	Application Number <b>10/537,852</b>
		Applicant(s) <b>Boneham et al</b>	
		Filing Date <b>June 08, 2005</b>	Group Art Unit <b>Unknown</b>
*EXAMINER INITIAL	OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>		
23	Coeffier et al (2000) "Antigenicity and Immunogenicity of the HIV-1 gp41 Epitope ELDKWA Inserted into Permissive Sites of the MalE Protein" Vaccine 19, 684-693		
24	Collins et al, "Structural dynamics of the membrane translocation domain of colicin E9 and its interaction with TolB", (2002) J. Mol. Biol. 318, 787-804		
25	Felici et al "Selection of antibody ligands from a large library of oligopeptides expressed on a multivalent exposition vector" (1991) Journal of Molecular Biology 222, 301-310		
26	Felici et al, "Mimicking of discontinuous epitopes by phage-displayed peptides, II. Selection of clones recognized by a protective monoclonal antibody against the Bordetella pertussis toxin from phage peptide libraries", (1993) Gene 128, 21-27		
27	Fouts et al, "Neutralization of the Human Immunodeficiency Virus Type 1 Primary Isolate JR-FL by Human Monoclonal Antibodies Correlates with Antibody Binding to the Oligomeric Form of the Envelope Glycoprotein Complex", (1997) J. Virol. 71, 2779-2785		
28	Harlow & Lane in "Antibodies: A Laboratory Manual", Cold Spring Harbor Laboratory, Cold Spring Harbor, New York. 1988. Pages 636-641.		
29	Huston et al, "Protein engineering of antibody binding sites: Recovery of specific activity in an anti-digoxin single-chain Fv analogue produced in Escherichia coli", (1988) Proc. Natl. Acad. Sci. USA 85, 5879-5883		
30	Leitner et al (Eds) "HIV Sequence Compendium 2003" Theoretical Biology and Biophysics Group, Los Alamos National Laboratory, Los Alamos, NM, LA-UR 04-7420. Pages 513 and 564-565.		
31	Marcaurelle et al, "Synthesis of an Oxime-Linked Neoglycopeptide with Glycosylation-Dependent Activity Similar to its Native Counterpart", (1998) Tetrahedron Letters 39, 8417-8420		
32	Miyazaki & Takenouchi, "Creating Random Mutagenesis Libraries Using Megaprimer PCR of Whole Plasmid", (2002) Biotechniques 33, 1033-1038		
33	Pakkanen et al, "Assembly of Stable Human Type I and III Collagen Molecules from Hydroxylated Recombinant Chains in the Yeast Pichia pastoris", (2003) J. Biol. Chem. 278, 32478-32483		
34	Parren et al, "Antibody Neutralization-Resistant Primary Isolates of Human Immunodeficiency Virus Type 1", (1998) J. Virol. 72, 10270-10274		
EXAMINER		DATE CONSIDERED	
<p>*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>			

<b>INFORMATION DISCLOSURE CITATION</b> <i>(Use several sheets if necessary)</i>		Docket Number (Optional) <b>87792.065605</b>		Application Number <b>10/537,852</b>	
		Applicant(s) <b>Boneham et al</b>			
		Filing Date <b>June 08, 2005</b>		Group Art Unit <b>Unkn wn</b>	
*EXAMINER INITIAL	OTHER DOCUMENTS <i>(Including Author, Title, Date, Pertinent Pages, Etc.)</i>				
	35	Parren et al, "Antibody Protects Macaques against Vaginal Challenge with a Pathogenic R5 Simian/Human Immunodeficiency Virus at Serum Levels Giving Complete Neutralization in Vitro", (2001) J. Virol. 75, 8340-8347			
	36	Skerra et al, "Assembly of a Functional Immunoglobulin Fv Fragment in Escherichia coli", (1988) Science 240, 1038-1041			
	37	Trkola et al, "A Cell Line-Based Neutralization Assay for Primary Human Immunodeficiency Virus Type 1 Isolates That Use either the CCR5 or the CXCR4 Coreceptor", (1999) J. Virol. 73, 8966-8974			
	38	Vos, "B-cell activation by T-cell-independent type 2 antigens as an integral part of the humoral immune response to pathogenic microorganisms", (2000) Immunol. Rev. 176, 154-170			
	39	Ward et al, "Binding activities of a repertoire of single immunoglobulin variable domains secreted from Escherichia coli", (1989) Nature 341, 544-546			
	40	Winter & Milstein, "Man-made antibodies", (1991) Nature 349, 293-299			
	41	Yang et al, "Highly Stable Trimers Formed by Human Immunodeficiency Virus Type 1 Envelope Glycoproteins Fused with the Trimeric Motif of T4 Bacteriophage Fibrin", (2002) J. Virol. 76, 4634-4642			
	42	Zwick et al, "Broadly Neutralizing Antibodies Targeted to the Membrane-Proximal External Region of Human Immunodeficiency Virus Type 1 Glycoprotein gp41", (2001) J. Virol. 75, 10892-10905			
EXAMINER		DATE CONSIDERED			
<p>*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>					